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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,957	02/13/2004	Paul Shirley	303.774US2	7102

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EXAMINER	
CARRILLO, BIBI SHARIDAN	
ART UNIT	**PAPER NUMBER**
1746	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/777,957	SHIRLEY ET AL.	
	Examiner	Art Unit	
	Sharidan Carrillo	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

4a) Of the above claim(s) *1-32,43-54 and 63-100* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33-42 and 55-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-100* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 02/18/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 33-42, 55-62, drawn to a method of cleaning a support, classified in class 134, subclass 26.

   II. Claims 69-82, drawn to a machine executable code, classified in class 134, subclass 18.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. The invention of Group II does not require a wafer support. The claims of Group II only require cleaning of any support (i.e. basket, clamp, chamber, hinge, grooves) with a cleaning surface.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Tim Clyse on 12/15/04 a provisional election was made with traverse to prosecute the invention of Group I, claims 22-42, and 55-62. Affirmation of this election must be made by applicant in replying to this Office action. Claims 69-82 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 33-42 and 55-62 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a cleaning surface limited to a scrubbing member and a wafer handling support, does not reasonably provide enablement for any type of support or cleaning surface. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claims embrace an invention which contains any support and any cleaning surface, which could/can be selected from literally thousands. It does not appear to be feasible that any cleaning surface and any support would function in the present invention. Further, for one skilled in the art to reproduce the present invention (which must be possible, if the specification is adequate), there would clearly be undue experimentation to do so in an attempt to figure out which cleaning surfaces and support work and which ones do not.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 33-42 and 55-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 33 and 55 are indefinite because of the language "adapted to releasably" since "adapted" is not a positive recitation. Claims 38-42 are indefinite because it is unclear whether "the surface" refers to the wafer supporting upper surface" or the "cleaning surface". Claim 37 is indefinite because of the term "wafer supporting upper surface" since there is no positive recitation of a wafer, resulting in a claim which is not further limiting. Claim 41 is indefinite since polytetrafluoroethylene is a type of plastic and therefore claim 41 should be dependent on claim 40. Claims 60-62 are indefinite because it is unclear the structural relationship between the vacuum source and other components such as the support and the cleaning surface.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 33, 37 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiatt et al. (5966635).

Hiatt et al. teach a method of cleaning a chuck. In the abstract, Hiatt teaches

Cleaning a chuck with a brush or sponge to remove particles. In reference to claims 33, 37, and 58, Fig. 3 teaches providing a brush which contacts the chuck for removal of particles.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 34-36 and 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiatt et al. (5966685) in view of Su et al. (5507874).

In reference to claims 34-36 and 56-57, Hiatt et al. fail to specifically teach vertical or coaxial alignment or downward movement. However, Fig. 3 teaches the dispensing arm 32 being moved in a side to side motion. It would have been within the level of the skilled artisan to move the cleaning surface in any direction necessary for contact and effective cleaning of the chuck surface. Hiatt et al. fail to further teach rotating the support or cleaning surface. However, Hiatt et al. teach mechanical action for the brush to clean residual material from the surface of the chuck. It would have been within the level of the skilled artisan to include a rotational motion since Hiatt et al. teach mechanical agitation for purposes of enhancing the removal of contaminants from the surface of the chuck.

16. Claims 38-41 and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiatt et al. (5966685) in view of Su et al. (5507874).

Hiatt et al. fail to tech the material used in the manufacture of the chuck. Su et al. teach a method of cleaning a chuck. In col. 2, lines 30-31, Su et al. teach that various insulating coatings such a polytetrafluoroethylene , ceramic, or diamond are used. It would have been obvious and within the level of the skilled artisan to have modified the method of Hiatt et al. to include conventional material, as taught by Su et al., which are used in the manufacture of the chuck. In reference to claims 38-39, it is notoriously well known in the art that chucks are made out of steel (Sada et al., 6062240).

Hiatt et al. fail to teach activating a vacuum source to remove contaminants. Su et al. teach removing contaminant particles from a chuck by vacuum exhaust (col. 3, lines 5-20). It would have been obvious to a person of ordinary skill in the art to have modified the method of

Hiatt et al., to include vacuum, as taught by Su et al., for purposes of removing contaminants during cleaning from the surface of the wafer chuck.

17. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiatt et al. (5966685) in view of Satterfield et al. (5364144).

Hiatt et al. fail to tech the material used in the manufacture of the chuck. Satterfield et al. teach a wafer handling apparatus made of acetal (col. 9, claim 6). It would have been obvious and within the level of the skilled artisan to have modified the method of Hiatt et al. to include conventional material, as taught by Satterfield et al., which are used in the manufacture of the wafer handling apparatus.

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hudson teaches acetal. Turner et al. teach cleaning of wafer handling implements using a vacuum or exhaust. Choi teaches cleaning wafer chuck using a brush. Lammert et al. teach cleaning a chuck with fluid. Van Autryve et al. teach plasma cleaning of a chamber.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on Monday-Friday, 6:00a.m-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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bsc

SHARIDAN CARRILLO
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